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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,998	02/28/2005	Shiro Sakai	08228/073001	6220

22511 7590 12/12/2006

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EXAMINER

NGUYEN, DILINH P

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/525,998	Applicant(s) SAKAI ET AL.	
	Examiner DiLinh Nguyen	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/19/06, 6/5/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Species 1, claims 1-13 in the reply filed on 9/28/06 is acknowledged. The traversal is on the ground(s) that three species are not mutually exclusive. This is not found persuasive because:

- a) The above three different Species show the need for three entirely different fields of a search.
 - b) The inventions are in different statutory classes or subclasses which have different case law basis for examination.
 - c) Non-restriction would mean that if one of the inventions were held to be unpatentable then the other would also be inherently held to be unpatentable.
- Therefore, restriction is proper since there are apparently three different inventive concepts in making the device and in the device itself.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5 and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hisashi (JP 2001-307506) (previously applied).

Hisashi discloses a light emitting device wherein a plurality of GaN-based light emitting elements 3, 5 and 6 are formed on an insulating substrate 2, and the plurality of light emitting elements (figs. 4 and 5) are monolithically formed, and wherein the plurality of light emitting elements form two groups, within each of the two group the light emitting elements being connected in series (figs. 1, 4-5, abstract and paragraph 0017).

- Regarding claim 2, Hisashi discloses that the plurality of light emitting elements are arranged in a two-dimensional pattern on the substrate (figs. 4-5).
- Regarding claim 3, Hisashi discloses that the two groups are connected between two electrodes 11 and 9' or 11' in parallel so that the two groups are of opposite polarities (figs. 1 and 4-5, paragraph 0017).
- Regarding claim 5, Hisashi discloses that the plurality of light emitting elements are electrically separated by sapphire which is used as the substrate 2 (fig. 1, paragraph 0015).
- Regarding claim 10, Hisashi discloses that an overall shape of the plurality of light emitting elements and the electrodes 9', 11 and 11' is substantially square (figs. 1 and 4).
- Regarding claim 11, Hisashi discloses that the plurality of light emitting elements are arranged in a zigzag pattern (figs. 4-5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hisashi (JP 2001-307506) (previously applied) in view of Adlerstein et al. (U.S. Pat. 5986324) (previously applied).

Hisashi substantially discloses all the limitations as claimed above except for air bridge lines.

However, Adlerstein et al. disclose an emitter electrode comprising a plurality of emitting elements are connected by air bridge lines 52a and 52b (cover fig., column 4, lines 3-4). Therefore, it would have been obvious to one having ordinary in the art at the time the invention was made to modify the device structure of Hisashi by having a plurality of air bridge lines because as taught by Adlerstein et al., such air bridge lines would provide a current passing through the emitter electrode is distributed uniformly along the length of the electrode thereby enabling the electrode to carry relatively large currents (column 1, lines 55-59).

5. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisashi (JP 2001-307506) (previously applied).

Hisashi substantially discloses all the limitations as claimed above and Hisashi also discloses that the two groups have equal numbers of light emitting elements and the two groups of light emitting element arrays are connected between two electrodes in parallel so that they are of opposite polarities (figs. 1 and 4-5).

Hisashi does not explicitly disclose that each group having an array of light emitting elements placed in a zigzag pattern.

However, it would have been an obvious matter of design choice to form each group having an array of light emitting elements placed in a zigzag pattern, since such a modification would have involved a mere change in the size or shape of a component. A change in size or shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Furthermore, the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising therefrom. Where patentability is aid to be based upon particular chosen size or shape or upon another variable recited in a claim, the Applicant must show that the chosen size or shape are critical. See *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed, Cir. 1990).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device structure of Hisashi by form the light emitting elements in each group are placed in a zigzag pattern, the zigzag pattern of light emitting elements in each group would improve functional performance and for the use of different application in the emitting device.

- Regarding claim 7, Hisashi discloses that the two groups of light emitting element arrays are alternately placed (figs. 4-5).
- Regarding claim 8, Hisashi discloses that each of the light emitting elements and the electrodes has a substantially square, planar shape (figs. 1 and 5).
- Regarding claim 9, Hisashi discloses that each of the light emitting elements has

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a substantially triangle, planar shape (fig. 4) and it would have been obvious to form the electrode has a substantially triangle, planar shape.

6. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisashi (JP 2001-307506) (previously applied) in view of Kondoh et al. (U.S. Pat. 6194743) (previously applied).

Hisashi substantially disclose all the limitations as claimed above except for the electrode is an electrode for an alternate current power supply and the common electrode is a n electrode.

However, Kondoh et al. discloses a light emitting device comprising the electrode is an electrode for an alternate current power supply and a n electrode (column 1, lines 32-34). Therefore, it would have been obvious to one having ordinary in the art at the time the invention was made to modify the device structure of Hisashi by having the electrode is an electrode for an alternate current power supply and a n electrode because as taught by Kondoh et al., such the current power supply electrode and the n electrode would provide the power source use to drive the light emitting device.

Response to Arguments

Applicant's arguments filed 9/28/06 have been fully considered but they are not persuasive.

- The applicant argues that Hisashi fails to disclose a plurality of light emitting elements monolithically formed and connected in series. The plurality of light emitting elements are formed on the same substrate and the plurality of the light emitting elements are connected in series to form two groups on the substrate.

The arguments have been fully considered but they are not persuasive because Hisashi clearly discloses that the plurality of light emitting elements (figs. 4 and 5) are monolithically formed in the same substrate 2, and wherein the plurality of light emitting elements form two groups, within each of the two group the light emitting elements being connected in series (figs. 1, 4-5, abstract and paragraph 0017).

- The applicant argues that the two groups of light emitting elements of Hisashi are formed with several chips; they are not formed monolithically on a substrate and grouped into two groups on a single substrate.

The arguments have been fully considered but they are not persuasive because Hisashi disclose that the two groups of light emitting elements are formed on 1 chip (figs. 1, 4-5 and paragraph 0017) and they are grouped into two groups on a single substrate 2 of the chip 1 (figs. 1 and 4).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (571) 272-1712. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DLN



HOAI PHAM
PRIMARY EXAMINER